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NOTICE OF ALLOWANCE AND FEE(S) DUE

63617

7590

05/15/2008

PERRY + CURRIER INC.
(FOR RIM)
1300 YONGE STREET
SUITE 500
TORONTO, ON M4T-1X3
CANADA

EXAMINER

DUONG, OANH L.

ART UNIT

PAPER NUMBER

2155

DATE MAILED: 05/15/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,984	02/25/2004	Craig Allan Dunk	30889-2002	8963

TITLE OF INVENTION: SYSTEM AND METHOD FOR MAINTAINING A NETWORK CONNECTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	08/15/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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nonprovisional	NO	\$1440	\$300	\$0	\$1740	08/15/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
DUONG, OANH L	2155	709-218000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 750 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 750 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/784,984

Examiner

OANH DUONG

Applicant(s)

DUNK, CRAIG ALLAN

Art Unit

2155

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/14/2008.
2. ☒ The allowed claim(s) is/are 1-5,7-10 and 12-18.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Oanh Duong/
Primary Examiner, Art Unit 2155

INTERVIEW SUMMARY

1. A telephone interview was initiated by examiner on May 8, 2008. Examiner proposed an amendment as shown in examiner's amendment below, and Applicant's representative authorized examiner to enter it by examiner amendment.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with T. Andrew Currier (Registration No. 45,400) on May 9, 2008.

The claims of the invention are amended as follows:

1. (Currently Amended) A system for maintaining a persistent connection, the system comprising:

an electronic device including a network interface for communicating with a second another device via a network connection carried over physical link that includes an equipment;

the equipment for terminating said network connection if said network connection remains idle according for a predefined time-out criterion of said equipment;

wherein said electronic device is configured to send keep-alive signals on said network connection;

wherein said electronic device is configured to send said keep-alive signals according to a plurality of different time intervals to determine said predefined time-out criterion of said equipment;

wherein said electronic device determines said predetermined time-out criterion by:

loading an initial default time period into said electronic device;

sending at least one of said keep-alive signals to said another device at said initial default time period;

increasing said initial default time period if said initial default time period does not cause said network connection to be dropped by said equipment;

repeating said sending step and increasing step until said increased initial default time period causes said network connection to be drop;

maintaining a last-known good time period when said increased initial default time period causes said network connection to be dropped, wherein said last-known good time period is less than and closest to said increased initial default time period that causes said network connection to be dropped ;

reestablishing said network connection; and thereafter,

sending subsequent keep-alive signals to said second electronic device at said last-known good time period.

2. (Currently Amended) The ~~electronic device~~ system of claim 1, wherein said electronic device is further configured to determine when one of said time intervals results in said equipment terminating said connection thereby determining said predetermined time-out criterion of said equipment.

3. (Currently Amended) The ~~device~~ system according to claim 2, wherein said electronic device is configured to request an HTTP (Hyper Text Transfer Protocol) web-page via said connection of said ~~second~~ another device and said keep-alive signal is a no-op signal.

4. (Currently Amended) The ~~electronic device~~ system of claim 1, wherein said equipment is a NAT (Network Address Translator) router.

5. (Currently Amended) The ~~electronic device~~ system of claim 1, wherein said criterion is a predetermined time period.

6. (Canceled)

7. (Currently Amended) The ~~electronic device~~ system according to claim [[6]] 1, wherein said electronic device is a client, said ~~second~~ another device is a web-server and at least a portion of said link includes Internet.

8. (Currently Amended) The ~~electronic device~~ system according to claim 7, wherein said client is battery operated and said default time period[[s]] are increased more quickly as said battery life is depleted to thereby reduce battery consumption while determining said predetermined time-out criterion period.

9. (Currently Amended) The ~~electronic device~~ system according to claim 8, wherein said client is a wireless device and at least a portion of said link includes a wireless connection from said wireless device to the Internet.

10. (Currently Amended) A method of maintaining a network connection, the method comprising the steps of:

loading a time-out period into a first electronic device of an initial default value;
establishing a connection from said first electronic device to a second electronic device via a physical link that includes an equipment for terminating said connection if said connection remains idle for a predefined timeout period;

sending keep-alive signals from ~~one~~ said first electronic device to the ~~other~~ said second electronic device via said equipment according to said time-out period;

increasing said time-out period and repeating said sending step if said time-out period does not cause said connection to be terminated by said equipment; and,

repeating said increasing step until said connection is terminated by said equipment in order to determine said predetermined time-out period of said equipment;

~~fixing~~ adjusting said ~~time-out~~ period to a value less than and closest to said determined predetermined time-out period of said equipment; and thereafter

sending said keep-alive signals using said adjusted ~~time-out~~ period ~~established~~ at said ~~fixing~~ step.

12. (Currently Amended) The method according to claim 10₁ wherein said ~~fixing~~ adjusting step is performed ~~by time-out~~ by iteratively decreasing said determined predetermined ~~time-out~~ period until said connection is no longer terminated by said equipment.

15. (Currently Amended) The method according to claim 10₁ wherein said first electronic device is a client, said second device is a web-server and at least a portion of said link includes the Internet.

16. (Currently Amended) The method according to claim 10₁ wherein said first electronic device is battery operated and said increasing step is based on larger intervals when said battery life is approaching depletion.

17. (Currently Amended) The method according to claim 16₁ wherein said first electronic device is a wireless device and at least a portion of said link includes a wireless connection from said wireless device to the Internet.

18. A computer-readable storage medium containing a set of programming instructions; ~~said programming instructions executable on an electronic device;~~ when executed ~~on said~~ by a first electronic device, ~~said programming instructions configured to render said electronic device operable to~~ for performing a method comprising the steps of:

loading a time-out period into said first electronic device of an initial default value;
establishing a connection from said first electronic device to a second electronic device via a physical link that includes an equipment for terminating said connection if said connection remains idle for a predefined time-out period;

sending keep-alive signals from said first electronic device to said second electronic device according to said time-out period;

increasing said time-out period and repeating said sending step if said time-out period does not cause said connection to be terminated by said equipment; and,

repeating said increasing step until said connection is terminated by said equipment in order to determine said pre-determined time-out period of said equipment;

~~fix~~ adjusting said time-out period to a value less than and closest to said determined predetermined time-out period of said equipment; and thereafter

sending said keep-alive signals using said adjusted time-out period as ~~fixed time-out~~.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to OANH DUONG whose telephone number is (571)272-3983. The examiner can normally be reached on Monday- Friday, 9:30PM - 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Oanh Duong/
Primary Examiner, Art Unit 2155